WEST Search History

DATE: Tuesday, May 20, 2003

Set Name side by side	Query	Hit Count	Set Name result set
	DB=USPT,PGPB,JPAB,EPAB,DWPI; THES=ASSIGNEE; PLUR=YES; OP=ADJ		
L4	l2 and methyl adj2 transferase	11	L4
L3	L2 and (ketoreductase or enoylreductase acyl transferase or methyl transferase or dehydratase)	44	L3
L2	L1 and (gene or dna or cdna or nucleic acid)	61	L2
L1	epothilone and (polyketide synthase or polyketide synthetase)	62	L1

END OF SEARCH HISTORY

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Search Results - Record(s) 1 through 11 of 11 returned.

1. Document ID: US 20020192767 A1

L4: Entry 1 of 11 File: PGPB Dec 19, 2002

PGPUB-DOCUMENT-NUMBER: 20020192767
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20020192767 A1

TITLE: Biosynthesis of polyketide synthase substrates

PUBLICATION-DATE: December 19, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Khosla, Chaitan	Palo Alto	CA	US	
Pfeifer, Blaine	Palo Alto	CA	US	

US-CL-CURRENT: 435/76; 435/119, 435/252.3, 435/252.33

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw Desc | Image

2. Document ID: US 20020128213 A1

L4: Entry 2 of 11 File: PGPB Sep 12, 2002

PGPUB-DOCUMENT-NUMBER: 20020128213
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20020128213 A1

TITLE: Sixteen-membered macrolide compounds

PUBLICATION-DATE: September 12, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Katz, Leonard	Oakland	CA	US	
Ashley, Gary	Alameda	CA	US	
Burlingame, Mark A.	San Francisco	CA	US	
Dong, Steven D.	San Francisco	CA	US	
Fu, Hong	Union City	CA	US	
Li, Yong	Palo Alto	CA	US	
Myles, David C.	Kensington	CA	US	

US-CL-CURRENT: 514/30; 536/7.1

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw Desc | Image

3. Document ID: US 20020111317 A1

L4: Entry 3 of 11 File: PGPB Aug 15, 2002

PGPUB-DOCUMENT-NUMBER: 20020111317
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20020111317 A1

TITLE: Sixteen-membered macrolide compounds

PUBLICATION-DATE: August 15, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Katz, Leonard	Oakland	CA	US	
Ashley, Gary	Alameda	CA	US	

US-CL-CURRENT: 514/28; 536/7.1, 536/7.4

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWMC | Draw. Desc | Image

☐ 4. Document ID: US 20020052028 A1

L4: Entry 4 of 11 File: PGPB May 2, 2002

PGPUB-DOCUMENT-NUMBER: 20020052028
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20020052028 A1

TITLE: Bio-intermediates for use in the chemical synthesis of polyketides

PUBLICATION-DATE: May 2, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Santi, Daniel	San Francisco	CA	US	
Ashley, Gary	Alameda	CA	US	
Myles, David C.	Kensington	CA	US	

US-CL-CURRENT: 435/76; 435/118

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWMC | Draw. Desc | Image

☐ 5. Document ID: US 20020045220 A1

L4: Entry 5 of 11 File: PGPB Apr 18, 2002

PGPUB-DOCUMENT-NUMBER: 20020045220
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20020045220 A1

TITLE: Biosynthesis of polyketide synthase substrates

PUBLICATION-DATE: April 18, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Khosla, Chaitan	Palo Alto	CA	US	
Pfeifer, Blaine	Stan Ford	CA	US	

US-CL-CURRENT: 435/76; 435/252.3, 435/252.33, 536/7.1

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWMC | Draw. Desc | Image

☐ 6. Document ID: US 20020010328 A1

L4: Entry 6 of 11 File: PGPB Jan 24, 2002

PGPUB-DOCUMENT-NUMBER: 20020010328
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20020010328 A1

TITLE: Polyketide synthase enzymes and recombinant DNA constructs therefor

PUBLICATION-DATE: January 24, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Reeves, Christopher	Orinda	CA	US	
Chu, Daniel	Santa Clara	CA	US	
Khosla, Chaitan	Palo Alto	CA	US	
Santi, Daniel	San Francisco	CA	US	
Wu, Kai	Foster City	CA	US	

US-CL-CURRENT: 540/456; 435/183, 536/23.2

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments KWIC | Draw. Desc | Image

☐ 7. Document ID: US 6503737 B1

L4: Entry 7 of 11 File: USPT Jan 7, 2003

US-PAT-NO: 6503737
DOCUMENT-IDENTIFIER: US 6503737 B1

TITLE: Isolated nucleic acids relating to the fkbA gene within the FK-520 polyketide synthase gene cluster

DATE-ISSUED: January 7, 2003

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Reeves; Christopher	Orinda	CA		
Chu; Daniel	Santa Clara	CA		
Khosla; Chaitan	Palo Alto	CA		
Santi; Daniel	San Francisco	CA		
Wu; Kai	Foster City	CA		

US-CL-CURRENT: 435/76; 435/252.3, 435/252.35, 435/320.1, 536/23.1, 536/23.2

ABSTRACT:

Host cells comprising recombinant vectors encoding the FK-520 polyketide synthase and FK-520 modification enzymes can be used to produce the FK-520 polyketide. Recombinant DNA constructs comprising one or more FK-520 polyketide synthase domains, modules, open reading frames, and variants thereof can be used to produce recombinant polyketide synthases and a variety of different polyketides with application as pharmaceutical and veterinary products.

34 Claims, 8 Drawing figures
Exemplary Claim Number: 1
Number of Drawing Sheets: 9

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments KWIC | Draw. Desc | Image

☐ 8. Document ID: US 6383787 B1

L4: Entry 8 of 11 File: USPT May 7, 2002

US-PAT-NO: 6383787
DOCUMENT-IDENTIFIER: US 6383787 B1
**** See image for Certificate of Correction ****

TITLE: Genes for the biosynthesis of epothilones

DATE-ISSUED: May 7, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Schupp; Thomas	Mohlin			CH
Ligon; James Madison	Apex	NC		
Molnar; Istvan	Durham	NC		
Zirkle; Ross	Raleigh	NC		
Cyr; Devon Dawn	Fuquay-Varina	NC		
Gorlach; Jorn	Durham	NC		

US-CL-CURRENT: 435/183; 435/193, 435/252.3, 435/252.35, 435/320.1, 536/23.1, 536/23.2, 536/23.7

ABSTRACT:

Nucleic acid molecules are isolated from Sorangium cellulosum that encode polypeptides necessary for the biosynthesis of epothilone. Disclosed are methods for the production of epothilone in recombinant hosts transformed with the genes of the invention. In this manner, epothilone can be produced in quantities large enough to enable their purification and use in pharmaceutical formulations such as those for the treatment of cancer.

25 Claims, 0 Drawing figures
Exemplary Claim Number: 1

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWMC | Draw Desc | Image

☐ 9. Document ID: US 6355459 B1

L4: Entry 9 of 11 File: USPT Mar 12, 2002

US-PAT-NO: 6355459
DOCUMENT-IDENTIFIER: US 6355459 B1

TITLE: Genes for the biosynthesis of epothilones

DATE-ISSUED: March 12, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Schupp; Thomas	Mohlin			CH
Ligon; James Madison	Apex	NC		
Molnar; Istvan	Durham	NC		
Zirkle; Ross	Raleigh	NC		
Cyr; Devon Dawn	Fuquay-Varina	NC		
Gorlach; Jorn	Durham	NC		

US-CL-CURRENT: 435/183; 435/189, 435/193, 435/232, 435/252.3, 435/252.35, 435/320.1, 536/23.2

ABSTRACT:

Nucleic acid molecules are isolated from Sorangium cellulosum that encode polypeptides necessary for the biosynthesis of epothilone. Disclosed are methods for the production of epothilone in recombinant hosts transformed with the genes of the invention. In this manner, epothilone can be produced in quantities large enough to enable their purification and use in pharmaceutical formulations such as those for the treatment of cancer.

115 Claims, 0 Drawing figures
Exemplary Claim Number: 1

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC | Draw. Desc | Image

☐ 10. Document ID: US 6355458 B1

L4: Entry 10 of 11 File: USPT Mar 12, 2002

US-PAT-NO: 6355458
DOCUMENT-IDENTIFIER: US 6355458 B1

TITLE: Genes for the biosynthesis of epothilones

DATE-ISSUED: March 12, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Schupp; Thomas	Mohlin			CH
Ligon; James Madison	Apex	NC		
Molnar; Istvan	Durham	NC		
Zirkle; Ross	Raleigh	NC		
Cyr; Devon Dawn	Fuquay-Varina	NC		
Gorlach; Jorn	Durham	NC		

US-CL-CURRENT: 435/183; 435/189, 435/193, 435/232, 435/252.3, 435/252.35, 435/320.1, 530/300, 536/23.1, 536/23.2, 536/23.7

ABSTRACT:

Nucleic acid molecules are isolated from Sorangium cellulosum that encode polypeptides necessary for the biosynthesis of epothilone. Disclosed are methods for the production of epothilone in recombinant hosts transformed with the genes of the invention. In this manner, epothilone can be produced in quantities large enough to enable their purification and use in pharmaceutical formulations such as those for the treatment of cancer.

100 Claims, 0 Drawing figures
Exemplary Claim Number: 1

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC | Draw. Desc | Image

☐ 11. Document ID: US 6303342 B1

L4: Entry 11 of 11 File: USPT Oct 16, 2001

US-PAT-NO: 6303342
DOCUMENT-IDENTIFIER: US 6303342 B1

TITLE: Recombinant methods and materials for producing epothilones C and D

DATE-ISSUED: October 16, 2001

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Julien; Bryan	Oakland	CA		
Katz; Leonard	Hayward	CA		
Khosla; Chaitan	Palo Alto	CA		
Tang; Li	Foster City	CA		

US-CL-CURRENT: 435/76

ABSTRACT:

Recombinant nucleic acids that encode all or a portion of the epothilone polyketide synthase (PKS) are used to express recombinant PKS genes in host cells for the production of epothilones, epothilone derivatives, and polyketides that are useful as cancer chemotherapeutics, fungicides, and immunosuppressants.

29 Claims, 9 Drawing figures
Exemplary Claim Number: 1
Number of Drawing Sheets: 8

Terms	Documents
l2 and methyl adj2 transferase	11

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Search Results - Record(s) 1 through 20 of 44 returned.

☐ 1. Document ID: US 20030073205 A1

L3: Entry 1 of 44 File: PGPB Apr 17, 2003

PGPUB-DOCUMENT-NUMBER: 20030073205
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20030073205 A1

TITLE: Production of polyketides

PUBLICATION-DATE: April 17, 2003

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Arslanian, Robert L.	Pacifica	CA	US	
Ashley, Gary	Alameda	CA	US	
Frykman, Scott	Hayward	CA	US	
Julien, Bryan	Oakland	CA	US	
Katz, Leonard	Oakland	CA	US	
Khosla, Chaitan	Palo Alto	CA	US	
Lau, Janice	San Mateo	CA	US	
Licari, Peter J.	Fremont	CA	US	
Regentin, Rika	Hayward	CA	US	
Santi, Daniel	San Francisco	CA	US	
Tang, Li	Foster City	CA	US	

US-CL-CURRENT: 435/117; 435/123, 435/252.3, 544/333, 546/148, 546/167, 546/281.7, 548/204

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments KWMC | Draw Desc | Image

☐ 2. Document ID: US 20030068676 A1

L3: Entry 2 of 44 File: PGPB Apr 10, 2003

PGPUB-DOCUMENT-NUMBER: 20030068676
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20030068676 A1

TITLE: Methods to mediate polyketide synthase module effectiveness

PUBLICATION-DATE: April 10, 2003

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Gokhale, Rajesh S.	New Delhi	CA	IN	
Tsuji, Stuart	Stanford	CA	US	
Khosla, Chaitan	Palo Alto		US	

US-CL-CURRENT: 435/69.1; 435/200, 435/320.1, 435/325, 435/7.1, 435/76

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments KWMC | Draw Desc | Image

☐ 3. Document ID: US 20030054547 A1

L3: Entry 3 of 44 File: PGPB Mar 20, 2003

PGPUB-DOCUMENT-NUMBER: 20030054547
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20030054547 A1

TITLE: Polyketide synthase gene from sorangium cellulosum

PUBLICATION-DATE: March 20, 2003

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Julien, Bryan	Oakland	CA	US	

US-CL-CURRENT: 435/320.1

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC | Draw Desc | Image

☐ 4. Document ID: US 20030054353 A1

L3: Entry 4 of 44 File: PGPB Mar 20, 2003

PGPUB-DOCUMENT-NUMBER: 20030054353
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20030054353 A1

TITLE: High throughput method for discovery of gene clusters

PUBLICATION-DATE: March 20, 2003

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Farnet, Chris M.	Outremont		CA	
Zazopoulos, Emmanuel	Outremont		CA	
Staffa, Alfredo	St-Leonard		CA	

US-CL-CURRENT: 435/6; 702/20

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC | Draw Desc | Image

☐ 5. Document ID: US 20030027287 A1

L3: Entry 5 of 44 File: PGPB Feb 6, 2003

PGPUB-DOCUMENT-NUMBER: 20030027287
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20030027287 A1

TITLE: Recombinant oleandolide polyketide synthase

PUBLICATION-DATE: February 6, 2003

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Betlach, Mary C.	San Francisco	CA	US	
Shah, Sanjay Krishnakant	Concord	CA	US	
McDaniel, Robert	Palo Alto	CA	US	
Tang, Li	Foster City	CA	US	

US-CL-CURRENT: 435/76; 435/183, 435/320.1, 435/325, 435/69.1, 536/23.2

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments KWIC | Draw. Desc | Image

☐ 6. Document ID: US 20020192778 A1

L3: Entry 6 of 44 File: PGPB Dec 19, 2002

PGPUB-DOCUMENT-NUMBER: 20020192778
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20020192778 A1

TITLE: Genes for the biosynthesis of epothilones

PUBLICATION-DATE: December 19, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Schupp, Thomas	Mohlin	NC	CH	
Ligon, James Madison	Apex	NC	US	
Molnar, Istvan	Durham	NC	US	
Zirkle, Ross	Raleigh	NC	US	
Cyr, Devon Dawn	Fuquay-Varina	NC	US	
Gorlach, Jorn	Durham		US	

US-CL-CURRENT: 435/183; 435/252.3, 435/320.1, 435/69.1, 536/23.2

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments KWIC | Draw. Desc | Image

☐ 7. Document ID: US 20020192767 A1

L3: Entry 7 of 44 File: PGPB Dec 19, 2002

PGPUB-DOCUMENT-NUMBER: 20020192767
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20020192767 A1

TITLE: Biosynthesis of polyketide synthase substrates

PUBLICATION-DATE: December 19, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Khosla, Chaitan	Palo Alto	CA	US	
Pfeifer, Blaine	Palo Alto	CA	US	

US-CL-CURRENT: 435/76; 435/119, 435/252.3, 435/252.33

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments KWIC | Draw. Desc | Image

☐ 8. Document ID: US 20020192756 A1

L3: Entry 8 of 44 File: PGPB Dec 19, 2002

PGPUB-DOCUMENT-NUMBER: 20020192756
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20020192756 A1

TITLE: Multi-plasmid method for preparing large libraries of polyketides and non-ribosomal peptides

PUBLICATION-DATE: December 19, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Santi, Daniel V.	San Francisco	CA	US	
Xue, Qun	Charlottesville	VA	US	
Ashley, Gary	Alameda	CA	US	

US-CL-CURRENT: 435/69.1; 435/320.1, 435/325, 435/76

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments KWIC | Draw. Desc | Image

☐ 9. Document ID: US 20020173008 A1

L3: Entry 9 of 44 File: PGPB Nov 21, 2002

PGPUB-DOCUMENT-NUMBER: 20020173008
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20020173008 A1

TITLE: Recombinant polyketide synthase genes

PUBLICATION-DATE: November 21, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Hu, Zhihao	Hayward	CA	US	
McDaniel, Robert	Palo Alto	CA	US	
Santi, Daniel V.	San Francisco	CA	US	

US-CL-CURRENT: 435/76; 435/193, 435/253.5, 435/320.1, 435/69.1, 536/23.2

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments KWIC | Draw. Desc | Image

☐ 10. Document ID: US 20020164747 A1

L3: Entry 10 of 44 File: PGPB Nov 7, 2002

PGPUB-DOCUMENT-NUMBER: 20020164747
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20020164747 A1

TITLE: Gene cluster for ramoplanin biosynthesis

PUBLICATION-DATE: November 7, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Farnet, Chris M.	Outremont		CA	
Zazopoulos, Emmanuel	Outremont		CA	
Staffa, Alfredo	St-Leonard		CA	

US-CL-CURRENT: 435/193; 435/320.1, 435/325, 435/69.1, 536/23.2

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC | Draw. Desc | Image

☐ 11. Document ID: US 20020142401 A1

L3: Entry 11 of 44 File: PGPB Oct 3, 2002

PGPUB-DOCUMENT-NUMBER: 20020142401
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20020142401 A1

TITLE: Isolated gene for methylmalonyl CoA epimerase and uses thereof

PUBLICATION-DATE: October 3, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Santi, Daniel	San Francisco	CA	US	
Dayem, Linda	Belmont	CA	US	
Kealey, James	San Rafael	CA	US	

US-CL-CURRENT: 435/76; 435/252.3, 435/320.1

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC | Draw. Desc | Image

☐ 12. Document ID: US 20020137152 A1

L3: Entry 12 of 44 File: PGPB Sep 26, 2002

PGPUB-DOCUMENT-NUMBER: 20020137152
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20020137152 A1

TITLE: Fermentation process for epothilones

PUBLICATION-DATE: September 26, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Santi, Daniel	San Francisco	CA	US	
Metcalf, Brian	Moraga	CA	US	
Ashley, Gary	Alameda	CA	US	

US-CL-CURRENT: 435/118; 435/184, 435/252.3

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC | Draw. Desc | Image

☐ 13. Document ID: US 20020128213 A1

L3: Entry 13 of 44 File: PGPB Sep 12, 2002

PGPUB-DOCUMENT-NUMBER: 20020128213
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20020128213 A1

TITLE: Sixteen-membered macrolide compounds

PUBLICATION-DATE: September 12, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Katz, Leonard	Oakland	CA	US	
Ashley, Gary	Alameda	CA	US	
Burlingame, Mark A.	San Francisco	CA	US	
Dong, Steven D.	San Francisco	CA	US	
Fu, Hong	Union City	CA	US	
Li, Yong	Palo Alto	CA	US	
Myles, David C.	Kensington	CA	US	

US-CL-CURRENT: 514/30; 536/7.1

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC | Draw. Desc | Image

☐ 14. Document ID: US 20020111317 A1

L3: Entry 14 of 44 File: PGPB Aug 15, 2002

PGPUB-DOCUMENT-NUMBER: 20020111317
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20020111317 A1

TITLE: Sixteen-membered macrolide compounds

PUBLICATION-DATE: August 15, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Katz, Leonard	Oakland	CA	US	
Ashley, Gary	Alameda	CA	US	

US-CL-CURRENT: 514/28; 536/7.1, 536/7.4

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC | Draw. Desc | Image

☐ 15. Document ID: US 20020094962 A1

L3: Entry 15 of 44 File: PGPB Jul 18, 2002

PGPUB-DOCUMENT-NUMBER: 20020094962
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20020094962 A1

TITLE: Motilide compounds

PUBLICATION-DATE: July 18, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Ashley, Gary	Alameda	CA	US	
Metcalf, Brian	Moraga	CA	US	
Tian, Zong-Qiang	Fremont	CA	US	
Santi, Daniel	San Francisco	CA	US	

US-CL-CURRENT: 514/28; 536/17.4, 536/7.4

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC | Draw. Desc | Image

☐ 16. Document ID: US 20020052028 A1

L3: Entry 16 of 44 File: PGPB May 2, 2002

PGPUB-DOCUMENT-NUMBER: 20020052028
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20020052028 A1

TITLE: Bio-intermediates for use in the chemical synthesis of polyketides

PUBLICATION-DATE: May 2, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Santi, Daniel	San Francisco	CA	US	
Ashley, Gary	Alameda	CA	US	
Myles, David C.	Kensington	CA	US	

US-CL-CURRENT: 435/76; 435/118

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC | Draw. Desc | Image

☐ 17. Document ID: US 20020051998 A1

L3: Entry 17 of 44 File: PGPB May 2, 2002

PGPUB-DOCUMENT-NUMBER: 20020051998
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20020051998 A1

TITLE: Directed evolution of biosynthetic and biodegradation pathways

PUBLICATION-DATE: May 2, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Schmidt-Dannert, Claudia	Shoreview	MN	US	
Arnold, Frances H.	Pasadena	CA	US	

US-CL-CURRENT: 435/7.1; 435/325, 435/410, 435/67

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC | Draw. Desc | Image

☐ 18. Document ID: US 20020045220 A1

L3: Entry 18 of 44 File: PGPB Apr 18, 2002

PGPUB-DOCUMENT-NUMBER: 20020045220
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20020045220 A1

TITLE: Biosynthesis of polyketide synthase substrates

PUBLICATION-DATE: April 18, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Khosla, Chaitan	Palo Alto	CA	US	
Pfeifer, Blaine	Stan Ford	CA	US	

US-CL-CURRENT: 435/76; 435/252.3, 435/252.33, 536/7.1

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC | Draw Desc | Image

☐ 19. Document ID: US 20020025936 A1

L3: Entry 19 of 44 File: PGPB Feb 28, 2002

PGPUB-DOCUMENT-NUMBER: 20020025936
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20020025936 A1

TITLE: Motilide compounds

PUBLICATION-DATE: February 28, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Ashley, Gary	Alameda	CA	US	
Burlingame, Mark	San Francisco	CA	US	
Carreras, Christopher	Belmont	CA	US	
Santi, Daniel	San Francisco	CA	US	

US-CL-CURRENT: 514/28; 536/7.1

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC | Draw Desc | Image

☐ 20. Document ID: US 20020010328 A1

L3: Entry 20 of 44 File: PGPB Jan 24, 2002

PGPUB-DOCUMENT-NUMBER: 20020010328
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20020010328 A1

TITLE: Polyketide synthase enzymes and recombinant DNA constructs therefor

PUBLICATION-DATE: January 24, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Reeves, Christopher	Orinda	CA	US	
Chu, Daniel	Santa Clara	CA	US	
Khosla, Chaitan	Palo Alto	CA	US	
Santi, Daniel	San Francisco	CA	US	
Wu, Kai	Foster City	CA	US	

US-CL-CURRENT: 540/456; 435/183, 536/23.2

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Terms	Documents
L2 and (ketoreductase or enoylreductase acyl transferase or methyl transferase or dehydratase)	44

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☐ 21. Document ID: US 20020004229 A1

L3: Entry 21 of 44 File: PGPB Jan 10, 2002

PGPUB-DOCUMENT-NUMBER: 20020004229
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20020004229 A1

TITLE: Overproduction hosts for biosynthesis of polyketides

PUBLICATION-DATE: January 10, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Santi, Daniel	San Francisco	CA	US	
McDaniel, Robert	Palo Alto	CA	US	
Tang, Li	Foster City	CA	US	
Khosla, Chaitan	Palo Alto	CA	US	

US-CL-CURRENT: 435/76; 435/254.2

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments KWIC | Draw Desc | Image

☐ 22. Document ID: US 20010051356 A1

L3: Entry 22 of 44 File: PGPB Dec 13, 2001

PGPUB-DOCUMENT-NUMBER: 20010051356
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20010051356 A1

TITLE: Methods for making polyketides

PUBLICATION-DATE: December 13, 2001

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Khosla, Chaitan	Stanford	CA	US	
Lau, Janice	Stanford	CA	US	
Pohl, Nicola L.	Menlo Park	CA	US	

US-CL-CURRENT: 435/41; 435/148, 435/193, 435/64, 435/76

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments KWIC | Draw Desc | Image

☐ 23. Document ID: US 6562795 B2

L3: Entry 23 of 44 File: USPT May 13, 2003

US-PAT-NO: 6562795

DOCUMENT-IDENTIFIER: US 6562795 B2

TITLE: Motilide compounds

DATE-ISSUED: May 13, 2003

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Ashley; Gary	Alameda	CA		
Burlingame; Mark	San Francisco	CA		
Carreras; Christopher	Belmont	CA		
Santi; Daniel	San Francisco	CA		

US-CL-CURRENT: 514/29; 536/7.2, 536/7.4

ABSTRACT:

The present invention provides novel macrolide compounds of the formulas ##STR1##

wherein: R is hydroxyl or methoxy; R.sup.1 is selected from the group consisting of hydrogen, hydroxyl, halide, NH.sub.2, OR.sup.9, ##STR2## where R.sup.9 is C.sub.1 -C.sub.10 alkyl, C.sub.2 -C.sub.10 alkenyl, C.sub.2 -C.sub.10 alkynyl, aryl or heteroaryl and R.sup.10 and R.sup.11 are each independently hydrogen, C.sub.1 -C.sub.10 alkyl, C.sub.2 -C.sub.10 alkenyl, C.sub.2 -C.sub.10 alkynyl, or aryl; R.sup.2 and R.sup.3 are each independently selected from the group consisting of hydrogen, C.sub.1 -C.sub.10 alkyl, C.sub.2 -C.sub.10 alkenyl, C.sub.2 -C.sub.10 alkynyl, aryl, alkylaryl, alkenylaryl, alkynylaryl or R.sup.2 and R.sup.3 together form a cycloalkyl or a cycloaryl moiety; R.sup.4 is hydrogen or methyl; R.sup.5 is hydrogen, hydroxyl, oxo, or together with R.sup.6 and the carbons to which they are attached form a cyclic carbonate; R.sup.6 is hydrogen, hydroxyl, OR.sup.12 where R.sup.12 is C.sub.1 -C.sub.10 alkyl, C.sub.2 -C.sub.10 alkenyl, C.sub.2 -C.sub.10 alkynyl, or together with R.sup.5 and the carbons to which they are attached form a cyclic carbonate; R.sup.7 is methyl, C.sub.3 -C.sub.10 alkyl, C.sub.2 -C.sub.10 alkenyl, C.sub.2 -C.sub.10 alkynyl, alkylaryl, alkenylaryl, alkynylaryl, amidoalkylaryl, amidoalkenylaryl, or amidoalkynylaryl; R.sup.8 is C.sub.1 -C.sub.10 alkyl, C.sub.2 -C.sub.10 alkenyl, C.sub.2 -C.sub.10 alkynyl, alkylaryl, alkenylaryl, alkynylaryl, amidoalkylaryl, amidoalkenylaryl, or amidoalkynylaryl; and, x is a single or a double bond.

6 Claims, 0 Drawing figures
Exemplary Claim Number: 1,5

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC | Draw Desc | Image

☐ 24. Document ID: US 6551802 B2

L3: Entry 24 of 44 File: USPT Apr 22, 2003

US-PAT-NO: 6551802
DOCUMENT-IDENTIFIER: US 6551802 B2

TITLE: Methods for making polyketides

DATE-ISSUED: April 22, 2003

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Khosla; Chaitan	Palo Alto	CA		
Lau; Janice	Stanford	CA		
Pohl; Nicola L.	Stanford	CA		

US-CL-CURRENT: 435/76; 435/183

ABSTRACT:

The stereochemical centers of a polyketide can be changed by replacement of ketosynthase

domains in the polyketide synthase (PKS) enzyme that produces the polyketide. The specificity of the AT domains of a PKS is determined by a hypervariable region that can be replaced or altered to change the specificity of the AT domain from a naturally occurring extender unit to another naturally or non-naturally occurring extender unit. Non-naturally occurring extender units, including methylmalonyl N-acetyl cysteamine thioester can be incorporated into polyketides in recombinant host cells or in cell-free systems to make polyketides.

7 Claims, 3 Drawing figures
Exemplary Claim Number: 1
Number of Drawing Sheets: 3

☐ 25. Document ID: US 6524841 B1

L3: Entry 25 of 44 File: USPT Feb 25, 2003

US-PAT-NO: 6524841
DOCUMENT-IDENTIFIER: US 6524841 B1

TITLE: Recombinant megalomicin biosynthetic genes and uses thereof

DATE-ISSUED: February 25, 2003

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
McDaniel; Robert	Palo Alto	CA		
Volchegursky; Yanina	Emeryville	CA		

US-CL-CURRENT: 435/252.3; 435/252.35, 435/254.11, 435/320.1, 435/325, 435/419, 536/23.1, 536/23.2, 536/23.7

ABSTRACT:

Recombinant nucleic acids that encode all or a portion of the megAI gene of the megalomicin polyketide synthase (PKS) of Micromonospora megalomicea are used to produce recombinant PKS enzymes in host cells to make megalomicin, megalomicin derivatives, and other polyketides that are useful as antibiotics, motilides, and antiparasitics.

7 Claims, 70 Drawing figures
Exemplary Claim Number: 1
Number of Drawing Sheets: 70

☐ 26. Document ID: US 6509455 B1

L3: Entry 26 of 44 File: USPT Jan 21, 2003

US-PAT-NO: 6509455
DOCUMENT-IDENTIFIER: US 6509455 B1

TITLE: Recombinant narbonolide polyketide synthase

DATE-ISSUED: January 21, 2003

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Ashley; Gary	Alameda	CA		
Betlach; Melanie C.	Burlingame	CA		
Betlach; Mary	San Francisco	CA		
McDaniel; Robert	Palo Alto	CA		
Tang; Li	Foster City	CA		

US-CL-CURRENT: 536/23.2; 435/193, 435/320.1, 536/23.7

ABSTRACT:

Recombinant DNA compounds that encode all or a portion of the narbonolide polyketide synthase are used to express recombinant polyketide synthase genes in host cells for the production of narbonolide, narbonolide derivatives, and polyketides that are useful as antibiotics and as intermediates in the synthesis of compounds with pharmaceutical value.

2 Claims, 6 Drawing figures
Exemplary Claim Number: 1
Number of Drawing Sheets: 6

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments KWIC | Draw. Desc | Image

☐ 27. Document ID: US 6503737 B1

L3: Entry 27 of 44 File: USPT Jan 7, 2003

US-PAT-NO: 6503737
DOCUMENT-IDENTIFIER: US 6503737 B1

TITLE: Isolated nucleic acids relating to the fkbA gene within the FK-520 polyketide synthase gene cluster

DATE-ISSUED: January 7, 2003

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Reeves; Christopher	Orinda	CA		
Chu; Daniel	Santa Clara	CA		
Khosla; Chaitan	Palo Alto	CA		
Santi; Daniel	San Francisco	CA		
Wu; Kai	Foster City	CA		

US-CL-CURRENT: 435/76; 435/252.3, 435/252.35, 435/320.1, 536/23.1, 536/23.2

ABSTRACT:

Host cells comprising recombinant vectors encoding the FK-520 polyketide synthase and FK-520 modification enzymes can be used to produce the FK-520 polyketide. Recombinant DNA constructs comprising one or more FK-520 polyketide synthase domains, modules, open reading frames, and variants thereof can be used to produce recombinant polyketide synthases and a variety of different polyketides with application as pharmaceutical and veterinary products.

34 Claims, 8 Drawing figures
Exemplary Claim Number: 1
Number of Drawing Sheets: 9

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments KWIC | Draw. Desc | Image

☐ 28. Document ID: US 6410301 B1

L3: Entry 28 of 44 File: USPT Jun 25, 2002

US-PAT-NO: 6410301
DOCUMENT-IDENTIFIER: US 6410301 B1

TITLE: Myxococcus host cells for the production of epothilones

DATE-ISSUED: June 25, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Julien; Bryan	Oakland	CA		
Katz; Leonard	Hayward	CA		
Khosla; Chaitan	Palo Alto	CA		

US-CL-CURRENT: 435/252.3

ABSTRACT:

Recombinant Myxococcus host cell containing recombinant expression vectors containing epothilone polyketide synthase genes can produce epothilones C and D.

6 Claims, 4 Drawing figures
Exemplary Claim Number: 1
Number of Drawing Sheets: 4

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments KWIC | Draw. Desc | Image

29. Document ID: US 6399789 B1

L3: Entry 29 of 44 File: USPT Jun 4, 2002

US-PAT-NO: 6399789
DOCUMENT-IDENTIFIER: US 6399789 B1

TITLE: Multi-plasmid method for preparing large libraries of polyketides and non-ribosomal peptides

DATE-ISSUED: June 4, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Santi; Daniel V.	San Francisco	CA		
Xue; Qun	San Francisco	CA		
Ashley; Gary	Alameda	CA		

US-CL-CURRENT: 549/271; 536/4.1

ABSTRACT:

A multiple-plasmid system for heterologous expression of polyketides facilitates combinatorial biosynthesis. The method can be extended to any modular polyketide synthase (PKS) or non-ribosomal peptide synthase (NRPS) and has the potential to produce thousands of novel natural products, including ones derived from further modification of the PKS or NRPS products by tailoring enzymes.

11 Claims, 11 Drawing figures
Exemplary Claim Number: 1
Number of Drawing Sheets: 9

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments KWIC | Draw. Desc | Image

☐ 30. Document ID: US 6383787 B1

L3: Entry 30 of 44 File: USPT May 7, 2002

US-PAT-NO: 6383787
DOCUMENT-IDENTIFIER: US 6383787 B1
**** See image for Certificate of Correction ****

TITLE: Genes for the biosynthesis of epothilones

DATE-ISSUED: May 7, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Schupp; Thomas	Mohlin			CH
Ligon; James Madison	Apex	NC		
Molnar; Istvan	Durham	NC		
Zirkle; Ross	Raleigh	NC		
Cyr; Devon Dawn	Fuquay-Varina	NC		
Gorlach; Jorn	Durham	NC		

US-CL-CURRENT: 435/183; 435/193, 435/252.3, 435/252.35, 435/320.1, 536/23.1, 536/23.2, 536/23.7

ABSTRACT:

Nucleic acid molecules are isolated from Sorangium cellulosum that encode polypeptides necessary for the biosynthesis of epothilone. Disclosed are methods for the production of epothilone in recombinant hosts transformed with the genes of the invention. In this manner, epothilone can be produced in quantities large enough to enable their purification and use in pharmaceutical formulations such as those for the treatment of cancer.

25 Claims, 0 Drawing figures
Exemplary Claim Number: 1

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC | Draw. Desc | Image

☐ 31. Document ID: US 6358719 B1

L3: Entry 31 of 44 File: USPT Mar 19, 2002

US-PAT-NO: 6358719
DOCUMENT-IDENTIFIER: US 6358719 B1

TITLE: Genes for the biosynthesis of epothilones

DATE-ISSUED: March 19, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Schupp; Thomas	Mohlin			CH
Ligon; James Madison	Apex	NC		
Molnar; Istvan	Durham	NC		
Zirkle; Ross	Raleigh	NC		
Cyr; Devon Dawn	Fuquay-Varina	NC		
Gorlach; Jorn	Durham	NC		

US-CL-CURRENT: 435/189; 435/252.3, 435/252.35, 435/320.1, 536/23.1, 536/23.2, 536/23.7

ABSTRACT:

Nucleic acid molecules are isolated from Sorangium cellulosum that encode polypeptides necessary for the biosynthesis of epothilone. Disclosed are methods for the production of epothilone in recombinant hosts transformed with the genes of the invention. In this manner, epothilone can be produced in quantities large enough to enable their purification and use in pharmaceutical formulations such as those for the treatment of cancer.

25 Claims, 0 Drawing figures
Exemplary Claim Number: 1

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC | Draw Desc | Image

☐ 32. Document ID: US 6355459 B1

L3: Entry 32 of 44 File: USPT Mar 12, 2002

US-PAT-NO: 6355459
DOCUMENT-IDENTIFIER: US 6355459 B1

TITLE: Genes for the biosynthesis of epothilones

DATE-ISSUED: March 12, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Schupp; Thomas	Mohlin			CH
Ligon; James Madison	Apex	NC		
Molnar; Istvan	Durham	NC		
Zirkle; Ross	Raleigh	NC		
Cyr; Devon Dawn	Fuquay-Varina	NC		
Gorlach; Jorn	Durham	NC		

US-CL-CURRENT: 435/183; 435/189, 435/193, 435/232, 435/252.3, 435/252.35, 435/320.1, 536/23.2

ABSTRACT:

Nucleic acid molecules are isolated from Sorangium cellulosum that encode polypeptides necessary for the biosynthesis of epothilone. Disclosed are methods for the production of epothilone in recombinant hosts transformed with the genes of the invention. In this manner, epothilone can be produced in quantities large enough to enable their purification and use in pharmaceutical formulations such as those for the treatment of cancer.

115 Claims, 0 Drawing figures
Exemplary Claim Number: 1

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC | Draw Desc | Image

☐ 33. Document ID: US 6355458 B1

L3: Entry 33 of 44 File: USPT Mar 12, 2002

US-PAT-NO: 6355458
DOCUMENT-IDENTIFIER: US 6355458 B1

TITLE: Genes for the biosynthesis of epothilones

DATE-ISSUED: March 12, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Schupp; Thomas	Mohlin			CH
Ligon; James Madison	Apex	NC		
Molnar; Istvan	Durham	NC		
Zirkle; Ross	Raleigh	NC		
Cyr; Devon Dawn	Fuquay-Varina	NC		
Gorlach; Jorn	Durham	NC		

US-CL-CURRENT: 435/183; 435/189, 435/193, 435/232, 435/252.3, 435/252.35, 435/320.1, 530/300, 536/23.1, 536/23.2, 536/23.7

ABSTRACT:

Nucleic acid molecules are isolated from Sorangium cellulosum that encode polypeptides necessary for the biosynthesis of epothilone. Disclosed are methods for the production of epothilone in recombinant hosts transformed with the genes of the invention. In this manner, epothilone can be produced in quantities large enough to enable their purification and use in pharmaceutical formulations such as those for the treatment of cancer.

100 Claims, 0 Drawing figures
Exemplary Claim Number: 1

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments KWIC | Draw. Desc | Image

☐ 34. Document ID: US 6355457 B1

L3: Entry 34 of 44 File: USPT Mar 12, 2002

US-PAT-NO: 6355457
DOCUMENT-IDENTIFIER: US 6355457 B1

TITLE: Genes for the biosynthesis of epothilones

DATE-ISSUED: March 12, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Schupp; Thomas	Mohlin			CH
Ligon; James Madison	Apex	NC		
Molnar; Istvan	Durham	NC		
Zirkle; Ross	Raleigh	NC		
Cyr; Devon Dawn	Fuquay-Varina	NC		
Gorlach; Jorn	Durham	NC		

US-CL-CURRENT: 435/183; 435/189, 435/193, 435/195, 435/196, 435/232, 435/252.3, 435/252.35, 435/320.1, 530/300, 536/23.1 , 536/23.2, 536/23.7

ABSTRACT:

Nucleic acid molecules are isolated from Sorangium cellulosum that encode polypeptides necessary for the biosynthesis of epothilone. Disclosed are methods for the production of epothilone in recombinant hosts transformed with the genes of the invention. In this manner, epothilone can be produced in quantities large enough to enable their purification and use in pharmaceutical formulations such as those for the treatment of cancer.

115 Claims, 0 Drawing figures
Exemplary Claim Number: 1

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments KWIC | Draw. Desc | Image

☐ 35. Document ID: US 6346404 B1

L3: Entry 35 of 44 File: USPT Feb 12, 2002

US-PAT-NO: 6346404
DOCUMENT-IDENTIFIER: US 6346404 B1
**** See image for Certificate of Correction ****

TITLE: Genes for the biosynthesis of epothilones

DATE-ISSUED: February 12, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Schupp; Thomas	Mohlin			CH
Ligon; James Madison	Apex	NC		
Molnar; Istvan	Durham	NC		
Zirkle; Ross	Raleigh	NC		
Cyr; Devon Dawn	Fuquay-Varina	NC		
Gorlach; Jorn	Durham	NC		

US-CL-CURRENT: 435/183; 435/189, 435/193, 435/232, 435/252.3, 435/252.35, 435/320.1, 530/350, 536/23.1, 536/23.2, 536/23.7

ABSTRACT:

Nucleic acid molecules are isolated from Sorangium cellulosum that encode polypeptides necessary for the biosynthesis of epothilone. Disclosed are methods for the production of epothilone in recombinant hosts transformed with the genes of the invention. In this manner, epothilone can be produced in quantities large enough to enable their purification and use in pharmaceutical formulations such as those for the treatment of cancer.

85 Claims, 0 Drawing figures
Exemplary Claim Number: 1

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC | Draw. Desc | Image

☐ 36. Document ID: US 6303767 B1

L3: Entry 36 of 44 File: USPT Oct 16, 2001

US-PAT-NO: 6303767
DOCUMENT-IDENTIFIER: US 6303767 B1

TITLE: Nucleic acids encoding narbonolide polyketide synthase enzymes from streptomyces narbonensis

DATE-ISSUED: October 16, 2001

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Betlach; Melanie C.	San Francisco	CA		
McDaniel; Robert	Palo Alto	CA		

US-CL-CURRENT: 536/23.2; 435/320.1, 536/23.1

ABSTRACT:

Host cells comprising recombinant vectors encoding the narbomycin polyketide synthase and narbomycin modification enzymes from Streptomyces narbonensis can be used to produce narbomycin, picromycin, methymycin, and neomethymycin. Recombinant DNA constructs comprising one or more narbomycin polyketide synthase domains, modules, open reading frames, and variants thereof can be used to produce recombinant polyketide synthases and a variety of different

. polyketides with application in agriculture, medicine, and animal health.

9 Claims, 2 Drawing figures
Exemplary Claim Number: 1
Number of Drawing Sheets: 2

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments KWIC | Draw. Desc | Image

☐ 37. Document ID: US 6303342 B1

L3: Entry 37 of 44 File: USPT Oct 16, 2001

US-PAT-NO: 6303342
DOCUMENT-IDENTIFIER: US 6303342 B1

TITLE: Recombinant methods and materials for producing epothilones C and D

DATE-ISSUED: October 16, 2001

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Julien; Bryan	Oakland	CA		
Katz; Leonard	Hayward	CA		
Khosla; Chaitan	Palo Alto	CA		
Tang; Li	Foster City	CA		

US-CL-CURRENT: 435/76

ABSTRACT:

Recombinant nucleic acids that encode all or a portion of the epothilone polyketide synthase (PKS) are used to express recombinant PKS genes in host cells for the production of epothilones, epothilone derivatives, and polyketides that are useful as cancer chemotherapeutics, fungicides, and immunosuppressants.

29 Claims, 9 Drawing figures
Exemplary Claim Number: 1
Number of Drawing Sheets: 8

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments KWIC | Draw. Desc | Image

☐ 38. Document ID: US 6280999 B1

L3: Entry 38 of 44 File: USPT Aug 28, 2001

US-PAT-NO: 6280999
DOCUMENT-IDENTIFIER: US 6280999 B1

TITLE: Sorangium polyketide synthases and encoding DNA therefor

DATE-ISSUED: August 28, 2001

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Gustafsson; Claes	Belmont	CA		
Betlach; Mary C.	San Francisco	CA		
Ashley; Gary	Alameda	CA		
Julien; Bryan	Oakland	CA		
Ziermann; Rainer	San Mateo	CA		

US-CL-CURRENT: 435/252.3; 435/183, 435/320.1, 435/325, 536/23.2

ABSTRACT:

Novel Sorangium polyketide synthases, and domains thereof, and polynucleotides encoding therefor. Additionally, chimeric polyketide synthases that include domains, or subsets of domains, patterned on said novel polyketide synthases. Methods to prepare polyketide combinatorial libraries are described, as are recombinant host cells in which polyketides are produced.

8 Claims, 7 Drawing figures
Exemplary Claim Number: 1
Number of Drawing Sheets: 21

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC | Draw Desc | Image

☐ 39. Document ID: US 6251636 B1

L3: Entry 39 of 44 File: USPT Jun 26, 2001

US-PAT-NO: 6251636
DOCUMENT-IDENTIFIER: US 6251636 B1

TITLE: Recombinant oleandolide polyketide synthase

DATE-ISSUED: June 26, 2001

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Betlach; Mary C.	San Francisco	CA		
Shah; Sanjay Krishnakant	Concord	CA		
McDaniel; Robert	Palo Alto	CA		
Tang; Li	Foster City	CA		

US-CL-CURRENT: 435/76; 435/252.35, 435/254.2, 435/320.1, 435/325, 435/419, 536/23.1, 536/23.2

ABSTRACT:

Recombinant DNA compounds that encode all or a portion of the oleandolide polyketide synthase are used to express recombinant polyketide synthase genes in host cells for the production of oleandolide, oleandolide derivatives, and polyketides that are useful as antibiotics and motilides.

22 Claims, 5 Drawing figures
Exemplary Claim Number: 1
Number of Drawing Sheets: 5

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC | Draw Desc | Image

☐ 40. Document ID: US 6221641 B1

L3: Entry 40 of 44 File: USPT Apr 24, 2001

US-PAT-NO: 6221641
DOCUMENT-IDENTIFIER: US 6221641 B1

TITLE: Method for making polyketides

DATE-ISSUED: April 24, 2001

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Khosla; Chaitan	Stanford	CA		
Lau; Janice	Stanford	CA		
Pohl; Nicola L.	Menlo Park	CA		

US-CL-CURRENT: 435/193; 435/69.1

ABSTRACT:

The stereochemical centers of a polyketide can be changed by replacement of ketosynthase domains in the polyketide synthase (PKS) enzyme that produces the polyketide. The specificity of the AT domains of a PKS is determined by a hypervariable region that can be replaced or altered to change the specificity of the AT domain from a naturally occurring extender unit to another naturally or non-naturally occurring extender unit. Non-naturally occurring extender units, including methylmalonyl N-acetyl cysteamine thioester can be incorporated into polyketides in recombinant host cells or in cell-free systems to make polyketides.

13 Claims, 3 Drawing figures
Exemplary Claim Number: 1
Number of Drawing Sheets: 3

Terms	Documents
L2 and (ketoreductase or enoylreductase acyl transferase or methyl transferase or dehydratase)	44

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Search Results - Record(s) 41 through 44 of 44 returned.

☐ 41. Document ID: US 6121029 A

L3: Entry 41 of 44 File: USPT Sep 19, 2000

US-PAT-NO: 6121029
DOCUMENT-IDENTIFIER: US 6121029 A

TITLE: Genes for the biosynthesis of epothilones

DATE-ISSUED: September 19, 2000

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Schupp; Thomas	Mohlin			CH
Ligon; James Madison	Apex	NC		
Molnar; Istvan	Durham	NC		
Zirkle; Ross	Raleigh	NC		
Cyr; Devon Dawn	Fuquay-Varina	NC		
Gorlach; Jorn	Durham	NC		

US-CL-CURRENT: 435/183; 435/189, 435/193, 435/232, 435/252.3, 435/252.35, 435/320.1, 530/300, 536/23.1, 536/23.2, 536/23.7

ABSTRACT:

Nucleic acid molecules are isolated from Sorangium cellulosum that encode polypeptides necessary for the biosynthesis of epothilone. Disclosed are methods for the production of epothilone in recombinant hosts transformed with the genes of the invention. In this manner, epothilone can be produced in quantities large enough to enable their purification and use in pharmaceutical formulations such as those for the treatment of cancer.

115 Claims, 0 Drawing figures
Exemplary Claim Number: 1

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC | Draw. Desc | Image

☐ 42. Document ID: US 6117659 A

L3: Entry 42 of 44 File: USPT Sep 12, 2000

US-PAT-NO: 6117659
DOCUMENT-IDENTIFIER: US 6117659 A

TITLE: Recombinant narbonolide polyketide synthase

DATE-ISSUED: September 12, 2000

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Ashley; Gary	Alameda	CA		
Betlach; Melanie C.	Burlingame	CA		
Betlach; Mary	San Francisco	CA		
McDaniel; Robert	Palo Alto	CA		
Tang; Li	Foster City	CA		

US-CL-CURRENT: 435/155; 435/132, 435/189, 435/252.3, 435/252.33, 435/252.35, 435/320.1, 536/23.2, 536/23.7

ABSTRACT:

Recombinant DNA compounds that encode all or a portion of the narbonolide polyketide synthase are used to express recombinant polyketide synthase genes in host cells for the production of narbonolide, narbonolide derivatives, and polyketides that are useful as antibiotics and as intermediates in the synthesis of compounds with pharmaceutical value.

11 Claims, 9 Drawing figures
Exemplary Claim Number: 1
Number of Drawing Sheets: 7

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC | Draw Desc | Image

☐ 43. Document ID: US 6090601 A

L3: Entry 43 of 44 File: USPT Jul 18, 2000

US-PAT-NO: 6090601
DOCUMENT-IDENTIFIER: US 6090601 A

TITLE: Sorangium polyketide synthase

DATE-ISSUED: July 18, 2000

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Gustafsson; Claes	Belmont	CA		
Betlach; Mary C.	San Francisco	CA		

US-CL-CURRENT: 435/183; 435/252.3, 435/320.1, 435/325, 536/23.2

ABSTRACT:

Domains of epothilone polyketide synthase, and polynucleotides encoding therefor. Additionally, chimeric polyketide synthases that include domains, or subsets of domains, patterned on epothilone polyketide synthase. Methods to prepare epothilone in pharmaceutically useful quantitites are described, as are methods to prepare polyketide combinatorial libraries.

24 Claims, 12 Drawing figures
Exemplary Claim Number: 1
Number of Drawing Sheets: 13

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC | Draw Desc | Image

☐ 44. Document ID: US 6090601 A

L3: Entry 44 of 44 File: DWPI Jul 18, 2000

DERWENT-ACC-NO: 2000-498261
DERWENT-WEEK: 200170

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TITLE: Novel epothilone polyketide synthase comprising a ketoreductase or ketosynthase domain, useful for producing epothilone

INVENTOR: BETLACH, M C; GUSTAFSSON, C

PRIORITY-DATA: 1998US-0010809 (January 23, 1998)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
US 6090601 A	July 18, 2000		039	C12N009/00

INT-CL (IPC): C07 H 21/04; C12 N 1/20; C12 N 5/00; C12 N 9/00; C12 N 15/00

ABSTRACTED-PUB-NO: US 6090601A

BASIC-ABSTRACT:

NOVELTY - A polyketide synthase (PKS) (I) comprising a ketoreductase or ketosynthase domain which comprise a peptide sequence, is new. The peptide sequence is a subset of the 159 (S1), 250 (S3) or 197 (S5) amino acid sequence defined in the specification.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

(1) a chimeric PKS (II) that comprises one or more epothilone PKS domains with a 260 (S7), 249 (S8), 222 (S9) or 264 (S10) amino acid sequence defined in the specification, or their subsets comprising 10 consecutive amino acids, or the sequence of (S5), (S3) or (S1);

(2) a purified and isolated DNA molecule (III) encoding a PKS domain, comprising the fully defined sequence of 477 (S2), 751 (S4), 591 (S6), 787 (S11), 750 (S12), 667 (S13), or 794 (S14) nucleotides as given in the specification;

(3) a purified and isolated DNA molecule (IV) comprising an open reading frame of (S2) or a specific nucleotide sequence defined in the specification which codes for (I) or its continuous subset that codes for at least 10 amino acid residues of (I);

(4) a polynucleotide that is complementary to (III);

(5) a recombinant expression system (V) capable of expressing (I) or (II) in which the coding sequence is operably linked to control sequences effective in the cell;

(6) a host cell (VI) modified to contain (V); and

(7) preparation of PKS domain, comprising culturing (VI) under conditions such that PKS domain is expressed.

USE - (I) is useful for preparing epothilone in large quantities which is useful as an antitumor agent.